the carbide powders having physical and chemical constants using the relationship:

$$X = Z*(1-R)/R$$

where X = specified size of nanopores, nm;

Z = 0.65-0.75 nm;

$$R = \rho M_c \rho_k / M_k \rho_c$$

where M_c - molecular mass of carbon, g/mole;

M_k - molecular mass of carbide, g/mole;

ρ_k - density of carbide, g/ccm;

ρ_c - density of carbon, g/ccm;

N - number of carbon atoms in carbide molecule;

heat treating the intermediate body in a medium of gaseous hydrocarbon or hydrocarbon mixtures at a temperature exceeding the decomposition temperature for the hydrocarbon or hydrocarbons until the mass of the intermediate body has increased at least 3% thereby producing a workpiece in the form of a rigid carbonaceous skeleton; and

thereafter thermochemically treating the work piece in a medium of a gaseous halogen to produce the porous carbon article having nanopores of a size less than 10 nm, and a predetermined volume and a predetermined distribution of the nanopores dependent on the intended use of the article.

--25. (new) The method according to claim 24, wherein the carbide powders are chosen in dependence of desired distribution of nanopores by sizes using the relationship:

$$\Psi_i = {}_{Ki}\varphi_i / \Sigma K_i \varphi_i$$

where Ψ_i - volumetric part of nanopores with size x_i in total volume of nanopores;

φ_i - volumetric part of i-th carbide in particle mixture;

n - number of carbides;

$$K_i = 1 - \nu M_c \rho_{ki} / M_{ki} \rho_c$$

where M_c - molecular mass of carbon, g/mole;

M_{ki} - molecular mass of i-th carbide, g/mole;

ρ_{ki} - density of i-th carbide, g/ccm;

ρ_c - density of carbon, g/ccm;

N - number of carbon atoms in carbide molecule.

--26. (new) The method according to claim 24, wherein the intermediate body has a porosity of 30-70 vol%.

--27. (new) The method according to claim 24, wherein the intermediate body has a porosity determined with the following relationship:

$$\varepsilon_0 = (1 - \nu_{np}/\Sigma K_i\varphi_i) * 100$$

ε_0 porosity of intermediate body vol%;

where φ_i - volumetric part of i-th carbide in particle mixture;

ν_{np} - predetermined volumetric part of nanopores in final article;

$$K_i = 1 - \nu M_c\rho_{ki}/M_{ki}\rho_c$$

where M_c - molecular mass of carbon, g/mole;

M_{ki} - molecular mass of i-th carbide, g/mole;

ρ_{ki} - density of i-th carbide, g/ccm;

ρ_c - density of cabon, g/ccm;

ν - number of carbon atoms in carbide molecule.

--28. (new) The method according to claim 24, wherein the treatment in a medium of gaseous hydrocarbon or hydrocarbon mixtures is carried out until the mass of the intermediate body has changed according to the following relationship:

$$\Delta m = Q(\varepsilon_0 - V_{tr})/(1 - \varepsilon_0)$$

where Δm - relative change of intermediate body mass, g/g;

ε_0 - porosity of intermediate body, vol%;

V_{tr} - predetermined volumetric content of transport pores, vol%;

$$Q = \rho_c/\rho_{mix}$$

where ρ_c = density of carbon, g/ccm;

ρ_{mix} = density of carbides mixture, g/ccm.

--29. (new) The method according to claim 24, wherein the intermediate body is formed by pressing.

--30. (new) The method according to claim 24, wherein the intermediate body is formed by slip casting, tape casting or slurry casting.

--31. (new) The method according to claim 24, wherein the natural gas comprises a mixture of hydrocarbons.

--32. (new) The method according to claim 31, wherein the treating in hydrocarbon medium is carried out at 750-950°C.

--33. (new) The method according to claim 24, wherein at least one of the hydrocarbons used during the treatment of the intermediate body in hydrocarbons medium is selected from the group consisting of acetylene, methane, ethane, propane, pentane, hexane, benzene and their derivatives.

--34. (new) The method according to claim 33, wherein the treating in hydrocarbon medium is carried out at 550-1200°C.

--35. (new) The method according to claim 24, wherein the particles of carbide or carbides of which the intermediate body is formed are arranged uniformly throughout its volume.

--36. (new) The method according to claim 24, wherein the particles of carbide or carbides of which the intermediate body is formed are arranged non-uniformly throughout its volume.

--37. (new) The method according to claim 24, wherein the gaseous halogen comprises chlorine.

--38. (new) The method according to claim 24, wherein the thermochemical treatment of the workpiece is carried out at 350-1200°C.

--39. (new) The method according to claim 38, wherein the thermochemical treatment is carried out at 500-1100°C.

--40. (new) The method according to claim 26, wherein the intermediate body has a porosity of 35-50 vol%.